

Daily GLOWBUGS

Digest: V1 #119

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

[AB4EL Ham Radio Homepage @ SunSITE](#)

%%%%%%%% GlowBugs %%%%%%%%% GlowBugs %%%%%%%%% GlowBugs %%%%%%%%% GlowBugs %%%%%%%%%

Subject: glowbugs V1 #119
glowbugs **Wednesday, September 24 1997** **Volume 01 : Number 119**

Date: Tue, 23 Sep 1997 14:20:15 -0500
From: Conard Murray <cfm5723@tntech.edu>
Subject: Regen plans at WS4S

Hello everyone,
My October regen will feature the classic pair of 30's with a condenser thottle as a start. If all goes well, I want to add a stage of RF to isolate the detector from the antenna. Another stage of audio would be nice too, but the Baldwin phones are pretty sensitive.
We don't have the scanner on line yet here at the office so I can't post any circuits yet.
November's circuit looks like it will be a transmitter of some sort any suggestions?
73 and ZUT!
Conard, WS4S

Date: Tue, 23 Sep 1997 15:29:30 -0400
From: "Forrest B. Snyder, Jr." <fbsnyder@mitre.org>
Subject: RE: October is officially Regen Month

Hmmm. Regen month sounds like fun. Just what I need to get off the dime and start building.

Maybe adapt the diagram in the '55 "How to Become a Radio Amateur".

Guess I need to dig into the junque pile and see what I have that I can employ for such a noble purpose.
My big problem is probably going to be coming up with a suitable power supply, unless I can get it to work with 12 v

Forrest Snyder
N4UTY
"Sure, it's 1936 technology. But it's good 1936 technology!"

- -----Original Message-----

From: BOB DUCKWORTH [SMTP:bob@atl.org]
Sent: Tuesday, September 23, 1997 9:09 AM
To: Conard Murray; na4g@www.atl.org
Cc: glowbugs@www.atl.org
Subject: Re: October is officially Regen Month

Conard-
I've been kind busy mesisng with my tower but think this is an excellent idea. I'll try to get a regen cranking around a single old pencil tube and some batteries. Maybe in one of those mint boxes they keep talking about on grp-1 I also want to talk to BABOB if you're around re: shifting the list to the mail machine here as an experiment. If you're reading, write me. I'll stick in a glowbugs dedicated disk and fix the mx record so the address doesn't change. I thought the www machine would be more reliable as it's closer to the network core but turns out that it's use for so much wwv and real audio stuff sorta cancels that out.
- -bob

Conard Murray wrote:
>
> Hey guys and gals,
> Boy am I disappointed.
> I thought that I would be covered in email suggesting ideas for my proposed
> 'circuit of the month' idea. I got a total of four replies ... all positive

> at least ... and a lot of silence.
> There has been more tube talk on grp-l than here lately.
> I was hoping to spark some interest by having the gang here all work on a
> common form of circuit each month and possibly end the whole thing with an
> informal qso party style contest. At least I didn't get flamed!
> Since there are at least a few interested, I will designate October as regen
> detector month. Participants will build any sort of tube-based regen
> detector and tell us all about it. Participants are encouraged to solicit
> whatever help and parts from other list members. There is no limit to
> however simple or complex the circuit chosen may be or what waves it covers.
> Photos are encouraged and I can make some space available for show-and-tell.
> Let's get going....
> 73 and ZUT,
> de Conard WS4S

Date: Tue, 23 Sep 1997 17:14:51 -0400
From: **bgriff@develcon.com (Bill Griffith)**
Subject: **Regen plans at VE3WGX**

OK, count me in !
My October (maybe Nov & Dec too) 80-meter regen is a 6K7 rf amp, 6K7
detector w/ screen grid regen control, and 6V6 audio amp (all octal-base
tubes, W/S No.19 Mk.III spares). Found two old Radio Coil Corp. of NY,NY
variable condensers with single-plate verniers and nice big bakelite dials,
graduated 0-100 over 180 degrees, and some other small bakelite knobs at a
local surplus place. Will perhaps upgrade (retrograde?) to 4-, 5-, or
6-pin-base tubes later, if I can find any.

73 all,
Bill VE3WGX

Date: Tue, 23 Sep 1997 14:14:10 -0700
From: **"Bowman, Jim" <Jim_Bowman@ATK.COM>**
Subject: **RE: October is officially Regen Month**

Greetings to the list.
I believe the receiver Forrest refers to is the one I started with back
in 1954 which uses a 3S4 tube. I have the booklet and intend to build
another one for sentimental reasons. I can still hear the magical
singing of the tube microphonics when the rig was bumped a little.
Anyway, enough of the misty eyed stuff! That little rig used a 22-1/2
volt B battery. I wonder why more folks don't just take a couple of old
car batteries in series to get 24 volts. That would power such a rig
foreeeevvvvver, even if the batteries didn't have normal current
capability left. Bulky, but simple, available, and cheap.

73,
Jim W7HPK
Jim_Bowman@mukilteo.hac.com

> -----
> From: Forrest B. Snyder, Jr.[SMTP:fbsnyder@mitre.org]
> Sent: Tuesday, September 23, 1997 12:29 PM
> To: 'bob@atl.org'; Conard Murray; na4g@www.atl.org
> Cc: glowbugs@www.atl.org
> Subject: RE: October is officially Regen Month
>
> Hmmm. Regen month sounds like fun. Just what I need to get off the
> dime and start building.
>
> Maybe adapt the diagram in the '55 "How to Become a Radio Amateur".
>
> Guess I need to dig into the junque pile and see what I have that I
> can employ for such a noble purpose.
> My big problem is probably going to be coming up with a suitable power
> supply, unless I can get it to work with 12 volts on the plate.
>
> Forrest Snyder
> N4UTY
> "Sure, it's 1936 technology. But it's good 1936 technology!"
>

Date: Tue, 23 Sep 1997 14:16:52 -0700
From: **Walt Turansky <turansky@xroads.com>**

Subject: Re: Regen plans at WS4S

Conard,

Thanks for starting the thread.

My plans are a 32 detector with one stage of audio (30) also with condenser throttle and 45v on the plates.

>My October regen will feature the classic pair of 30's with a condenser
>thottle as a start. If all goes well, I want to add a stage of RF to isolate
>the detector from the antenna. Another stage of audio would be nice too, but
>the Baldwin phones are pretty sensitive.
>We don't have the scanner on line yet here at the office so I can't post any
>circuits yet.

How about the Colpitts ECO that Bob published (barracks bag VFO).

>November's circuit looks like it will be a transmitter of some sort any
>suggestions?

73 de N7QFN,
Walt

Date: Tue, 23 Sep 1997 19:41:29 -0400 (EDT)
From: EWoodman@aol.com
Subject: Regen Power

Forrest,
Don't worry too much about a power supply for your regen, especially if it's concern for a high voltage transformer and other high voltage parts. Most regens will work at fairly low voltage, say around 38 to 90 volts. Even 12 volts may not be as ridiculous as it might first seem. Just for kicks I just wired up one of my regens to a little Radio Shack 12v supply and hooked up my 175 foot wire for an antenna. Had no trouble copying some 75m AM phone and some CW. I thought maybe it wouldn't go into oscillation with that low voltage but it did. Just goes to show you don't need much. Granted, the performance isn't as good at 12v but it can be done! I regularly run my regens on a 36v supply. Just get a cheap Radio Shack 24v transformer, a couple of 50v caps, and a bridge rectifier or a couple of diodes. The no load voltage on mine is about 36v with a capacitive input filter. If you want a bit more just use the 24v xfmr in a voltage doubler circuit.

By the way, the rig I just tested at 12v is a two stage rig using a 6SN7 dual triode for detector and one stage of audio.

Good luck.
73 Eric KA1YRV

Date: Tue, 23 Sep 1997 19:39:59 -0500
From: Conard Murray <ws4s@InfoAve.Net>
Subject: Re: re:Regen plans at WS4S

Hi Mark,
Good question. As with most regen values, the optimal ratio will need to be found experimentally, but I think the 3:1 will give some results and I wouldn't be too surprised if the 10:1 didn't work better. A good transformer also helps keep the RF in the detector tube where it belongs. Does anyone on the list have an idea what the actual impedances are in a 2-stage regen? I suspect they are rather high. The Doerle circuit has worked well for me in the past. Let us all know what parts you need and we will find them for you.
73,
Conard

- -----Original Message-----
From: Mark Dittmar <Mark_Dittmar@maxtor.com>
To: owner-glowbugs@www.atl.org <owner-glowbugs@www.atl.org>
Date: Tuesday, September 23, 1997 5:14 PM
Subject: re:Regen plans at WS4S

>
> I have seen implementations of the pair of 30's circuit with

>interstage transformers with 3:1 ratios up to 10:1 ratios. What do you
>think is optimal ? And where does one find such transformers at a
>reasonable price ? I've seen AES has the 3:1 for about 10 bucks. Is there
>another (cheaper) way of coupling between the two tubes ? I am
>collecting parts to build the Doerle two-tube set with a pair of 30s also.
>
> Mark D

Date: Tue, 23 Sep 1997 20:57:25 -0400 (EDT)
From: EWoodman@aol.com
Subject: Regen Plans at KALYRV

Conard,
Guess I'll follow along here with a plan too. Currently have two regens up
and running. One is based on a circuit I got from Jeff, KG7JF, which uses a
6SN7 for an rf stage and detector and a 6V6 for audio. Nice little rig with
plenty of audio. Regen control is with a pot. Not as smooth as a throttle
condenser but very usable. The second rig also uses a 6SN7 for detector and
one audio stage, throttle condenser for regen control, and plug in coils. It
runs (as I just found out tonight) all the way down to 12v and up to 100v.
Optimum is between 35 and 60 volts.

My plan is to build something that "looks and feels" like like one of the old
sets. Something with a panel similar to a 1420 with two big old verniers on
the front and a bunch of knobs and switches! Probably a two stage rig,
detector and audio. I haven't really started yet other than rigging up a way
to provide variable coupling between the primary (antenna) and secondary
coils. It's an idea I got from Bob NA4G. He had mentioned something about
using part of a potentiometer for the shaft and bushing. I cannibalized a
cheap rotary switch for the shaft and bushing which easily attaches to the
front panel. Using a shaft coupler I attached a short wooden dowel which
attaches to a piece of pvc pipe with a coil wound on it. This allows you to
rotate the coil next to the end of the adjacent secondary coil...instant
variometer! I tested it out on a simple crystal receiver and it seems to work
fine. All parts will be mounted to the back of the front panel like the old
ones. That eliminates the need for a chassis and makes for easy construction
and easy removal from the cabinet if necessary.

I intend to put the rig in a nice big wooden box with a black front panel.
Should look good beside my Hartley!

73 Eric KALYRV

Date: Wed, 24 Sep 1997 08:42:39 +0200
From: Jan Axing <janax@li.icl.se>
Subject: Re: Regen plans at WS4S

Conard Murray wrote:

>
> Hello everyone,
> My October regen will feature the classic pair of 30's with a condenser
> thottle as a start. If all goes well, I want to add a stage of RF to isolate
> the detector from the antenna. Another stage of audio would be nice too, but
> the Baldwin phones are pretty sensitive.

I have not yet found any 30's over here but will try a pair of 6J5 instead.

> November's circuit looks like it will be a transmitter of some sort any
> suggestions?

Yes, a self excited Hartley is my suggestion or perhaps an ECO with a doubling
plate circuit. I wanna try the EL34 here.

Jan, SM5GNN

Date: Wed, 24 Sep 1997 11:23:06 +0200
From: Jan Axing <janax@li.icl.se>
Subject: More on the new glowbug

... or September is the triode/pentode month?

The glowbug is slowly improving. I changed to 6BM8/ECL82 instead
since I found it to be easier to tame.

I have since increased my rock collection and discovered that this glowbug depends a lot on the rock activity. With an average rock, power out is 5W but with a really good one 9W and much better efficiency.

Do anyone have similar experiences?

73

Jan, SM5GNN

The bug can be found at <http://www.algonet.se/~janax/ec186bug.htm>

Date: Tue, 23 Sep 1997 22:42:39 -0400 (EDT)

From: EWoodman@aol.com

Subject: Regen Audio Transformer

> I have seen implementations of the pair of 30's circuit with
> interstage transformers with 3:1 ratios up to 10:1 ratios. What do you
> think is optimal ? And where does one find such transformers at a
> reasonable price ? I've seen AES has the 3:1 for about 10 bucks. Is there
> another (cheaper) way of coupling between the two tubes ? I am
> collecting parts to build the Doerle two-tube set with a pair of 30s also.

Mark,

You can use an RC network in place of the interstage transformer or the large audio coupler choke that is sometimes used. I've done it and it works (and it's CHEAP) but I don't have a transformer to compare it to. I've been told, and I'm sure it's true, that it probably decreases the audio level from what you'd get when using the transformer. I'm also not sure how to compute the optimum values for the RC network. What I'm using in my rig are a .001mfd cap and 100k resistor. I think Conard may also have a point with the isolation issue as well. If any one else has used the RC method maybe they can enlighten us on this.

73 Eric KALYRV

Date: Wed, 24 Sep 1997 09:24:38 -0700

From: Walt Turansky <turansky@xroads.com>

Subject: Re: Regen plans at WS4S

>Anybody got a link to the Barracks Bag VFO rig? I couldnt find it in the
>usual locations.

The file is available by ftp at
<ftp://piobaire.mines.uidaho.edu/pub/Glowbugs/Articles/bbagvfo.ps.gz>

or I can snail mail a copy to someone who is willing to scan it and post it somewhere.

73 de N7QFN,
Walt

Date: Wed, 24 Sep 1997 09:42:57 -0700 (PDT)

From: "Tom R. Rice" <tomrice@netcom.com>

Subject: HRO-Type Dial Note.....

Some recent requests for info on the famous HRO-type dial units impel me to offer the following source:

Bill Fizette, W2DGB, has written a number of articles in the magazine "Old Timer's Bulletin" which describe the National PW/NPW dials and condenser assemblies.

Check out OTB, August, 1994, page 17 and OTB, November, 1995, page 8, both parts of Bill's continuing series of "National Notes", et al.

(The OTB is the official journal of the Antique Wireless Association, to which any right-thinking person should belong. Send \$15 US to the Secretary, Joyce Peckham, Box E, Breesport, NY 14816. Phone: 607-739-5443 Fax: 607-796-6230.

Orders for back issues of OTB may be placed with

Debbie Roloson, 2 Walnut Place, Apalachin, NY 13732
Phone 607-625-3031.)

(I don't do disclaimers)

Hopefully this will help save as many of those neato
dials as possible. Good Luck!

73 de WB6BYH

- --

"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com

Date: Wed, 24 Sep 1997 09:58:54 -0400
From: Roy Morgan <morgan@speckle.ncsl.nist.gov>
Subject: WTB: manual for CU-784B/U Antenna Coupler

Anchorites,

Wanted: Manual for

CU-784B/U
Coupler, Antenna
For General Radio Use
Barker and Williamson

This is a Navy receiving antenna distribution unit with tuning for loop
antennas and multiple outputs.

Keep em Glowing!
Roy, K1LKY since 1959

- -- Roy Morgan/Building 820, Room 562/Gaithersburg MD 20899
National Institute of Standards and Technology
301-975-3254 Fax: 301-948-6213 morgan@speckle.ncsl.nist.gov --

Date: Wed, 24 Sep 1997 13:15:49 -0500
From: "Claton Cadmus" <aplitech@spacestar.net>
Subject: Re: Junk Box Challenge!

I don't seem to be getting any takers for the "Junk Box Challenge!" It doesn't
have to be a six meter rig you know, anything will do. Doesn't anybody want to
give it a go?

- ----

73 de KA0GKC Claton Cadmus
E-mail cla@spacestar.net
If you live in Minnesota check out this webpage!
<http://www.qsl.net/mnqrp>

Date: Wed, 24 Sep 1997 16:08:08 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Regen. plans??

My old regenny uses a single 1J6G tube. Same bottle as the old '19 with
an octal base. This has been the best working one I've ever built.

I'd like to get my hands on a couple of 1G6G or GT's. This has a
1.5 volt filament
at 100 ma. vs. the '19-1J6G's 2 volt at 240 ma one! I have had lousy results
with tetrode/pentode detectors. They seem to be VERY fussy about voltages and
also they seem to overload easier. I think my next "improvement" would be
possibly an RF stage with controllable gain. With battery tubes this might be
a pain in the butt. I may try a variable "C" supply. Tube to use? Maybe a
1A4P or a 1B4P, unless I get some 1G6GT's for detector/audio stage, then
the RF amp would be 1N5GT or 1P5GT. If I used miniatures, I think I'd pick
maybe 1S5 or 1U5 triode connected for Det/audio stages, then 1T4 or 1U4
for RF stage.

The battery tubes are so free from "hummmmmmmmm", but they do
tend to be microphonic, especially the older tubes like '32, '34, 1A4P etc.

73rds,
E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"

417 Ridgewood Drive
Metairie, LA., 70001

Date: Wed, 24 Sep 1997 14:09:25 +0000 (GMT)
From: Jim Glover <psykey@okcforum.org>
Subject: Sources for regen ideas?

This talk about building a regenerative receiver has me pretty excited, since that's something I've been wanting to do, too.

As I read the posts people are making about their plans, I realize that I'm a bit out of my league here. It seems the typical glowbugs subscriber's competence, and particularly independence, in designing circuits far exceeds my own.

This doesn't discourage me a bit, though...I'm eager to take these sorts of next steps! What I need, though, is some information, some of which I haven't come across yet.

One thing I need, is circuit diagrams, parts layouts, and in my fondest dreams, thorough discussions of various designs for (in this case) regenerative receivers. If each post that's come across here, in which someone has said, "I'm planning to use [insert tube number here] in some sort of [etc]" included a reference to some magazine article, readily available book, or (best of all) a web page describing the project, I'd be in heaven checking out all the resources! :)

I guess another thing I need, is a good explanation of regenerative receivers, told from the perspective of trying to educate the reader enough that they'd then be able to go on and recognize the various elements, know how they could be modified (as opposed to what's critical), and all that stuff.

So far, what I've found are a few circuit diagrams--none with enough details that I'd feel comfortable making modifications, or even understand the nitty-gritty details of how the thing works, after I'd built it. (I do know how regenerative receivers work, in general.) I'd really like to find something that could become a QSO-quality 30M receiver.

Frankly, I suspect that if some of the glowbug subscribers are like me (would like to build, but aren't quite that independent yet) projects launched here would be more successful if the first phase of the project included the building of a sort of bibliography, where everyone who has a recommendation to make about sources of information could chip in their two cents' worth about how those of us who have a lot to learn yet, could buy or borrow a clue or two. :)

So... does anyone have any sort of "what you ought to read" recommendations to make?

- --Jim WB5UDE

Date: Wed, 24 Sep 1997 12:23:24 -0700 (PDT)
From: Bob Okas <vintage@best.com>
Subject: Re: Regen Audio Transformer

Hello All,

A few thoughts on audio coupling...

Not that I advocate cannabilizing old gear, but if there's an old LM-type frequency meter kicking around, there's a very large audio choke in there that would suffice for choke coupling of the audio stages. My memory is fuzzy, but I seem to recall its value in the 600H (yup, Henries) range. At 100cps, that translates to a 377K load impedance! DC resistance is on the order of a few hundred Ohms.

Pentode detectors have a high plate resistance and require higher load impedances than triodes. I've tried various RC coupling techniques with my homebrew BCB regen and have had reasonable output using a 47K load resistor with a 174 pentode and a 27V plate supply. It was almost as good as transformer coupling. For a coupling cap, I seem to remember using a .05 uF

unit. The low frequency response is acceptable for AM purposes.

The low frequency cutoff depends on the load resistance. If the grid resistance of the following audio stage is 100K and the coupling cap is .005 uF, then the -3dB corner would be about 300 cps, certainly adequate for CW work.

What say the sages?

Bob - W3CD

Date: Wed, 24 Sep 1997 12:26:52 -0700
From: Walt Turansky <turansky@xroads.com>
Subject: Regen Plans on the Web

Ken asked about regen plans in the BA archives. I don't believe there are any but I found the following site that describes a Doerle Regen using 30's.

<http://members.aol.com/caschwark/homebrew.htm>

73 de N7QFN,
Walt

End of glowbugs V1 #119

%%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%%

[AB4EL Ham Radio Homepage @ SunSITE](#)

Created by **Steve Modena, AB4EL**
Comments and suggestions to modena@SunSITE.unc.edu
